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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/753,250
Filing Date: January 08, 2004
Appellant(s): CHILDRESS ET AL.

Cathrine K. Kinslow
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 01/08/2009 appealing from the Office action mailed 08/25/2008**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,819,033	Caccavale	10-1998
5,819,028	Manghirmalani	10-1998

.**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 5-10, 12-14 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caccavale, US 5,819,033.

Regarding Claim 1, Caccavale discloses the claimed aspect of a method for monitoring system performance and communicating detailed system performance(Abstract, Fig.12) data via an enhanced graphical representation(Caccavale, Column 4, lines 26-29, FIG. 12), comprising: querying a current monitoring configuration(Abstract); monitoring system performance using instructions obtained from the current monitoring configuration(Caccavale, Column 2, lines 16-19); polling system data according to the current monitoring configuration; and displaying the polled system data on a graphical representation(Caccavale, Column 3, lines 58-66, FIG.12), wherein the graphical representation comprises a target-type management vector display including regions representing levels of system performance(Column 29, lines 6-19, FIG.12), more specifically, wherein the sphere in FIG. 12 is one of region of acceptable performance, while the region external to the cube represents a region of unacceptable performance, and a metric point within the display identifying the current status of system performance at a particular point in time(Caccavale, Column 27, lines 57-63).

Caccavale discloses the claimed aspect of performing an adjustment to system operations based on a region in which the metric point is located in the target-type management vector display to move system performance towards a target operational state represented by a point where the vertical axis and horizontal axis meet on the management vector display, wherein a method and system for dynamically improving the performance of a server in a network, a tuning system monitors a workload of the server in real time, monitors a set of internal performance characteristics of the server

in real time, and monitors a set of adjustable server parameters of the server in real time. The workload of the server may include the frequency and type of service requests received by the server from clients in the network. The internal server performance characteristics may include, for example, a data cache hit ratio of a data cache in the server. The set of server parameters may include, for example, the overall data cache size or the data cache geometry of the server. The tuning system periodically alters one or more of the set of adjustable server parameters as a function of the workload and internal performance characteristics of the server. Since the tuning system is continuously monitoring workload and performance characteristics of the server and altering the server parameters accordingly, the effectiveness of a given change in the server parameters is reflected in the next set of monitored workload and performance values. Furthermore, Caccavale provides a computer network and provides a dynamic method of analyzing and improving the performance of the network, it is directed to a system and method for improving the performance level of a network server by dynamically adjusting (i.e. tuning) the parameters of the server in response to changes in the workload of the server. (Caccavale, Abstract, Column 1, lines 10-17).

Applicant should duly note that dynamic adjustment would provide continuous service.

Caccavale does teach graphical representation of a target type pattern, however does not teach the graphical user interface aspect. It would have been obvious to one of ordinary skill in the art at the time of the invention to illustrate the three dimensional

graph(Caccavale, Column 4, lines 26-29) on a graphical user interface because this would allow the user to monitor the network more efficiently.

Regarding Claim 2, most of the limitations have been met in the rejection of Claim 1. See details for Claim 1 rejection. It is inherent in Caccavale's invention that determining whether the polled system data is reportable; selecting a report to display the polled system data(Column 4, lines 26-29, Column 3, lines 54-61), wherein possible workload values plotted; and identifying information in the polled system data to display in the report. (Column 3, 42-61).

Regarding Claim 3, most of the limitations have been met in the rejection of Claim 1. See details for Claim 1 rejection. Caccavale discloses the claimed aspect of the metric point within the target-type management vector display provides the performance status of a particular area of the system at a particular time,(Column 29, lines 6-19, FIG.12), more specifically, wherein the sphere in FIG. 12 is one of region of acceptable performance, while the region external to the cube represents a region of unacceptable performance, and a metric point within the display identifying the current status of system performance at a particular point in time(Caccavale, Column 27, lines 57-63, Column 2, lines 5-10).

Regarding Claim 5, the limitations have been met in the rejection of Claim 1. See details for Claim 1 rejection. Caccavale discloses the claimed aspect of multiple metric

points are used in the display to identify a trail of system status information determined at fixed periods of time(Column 2, line 9) in FIG. 12, wherein metric points are illustrated inside the sphere.

Regarding Claim 6 most of the limitations have been met in the rejection of Claim 5. See details for Claim 5 rejection. Caccavale discloses the claimed aspect of the metric trail is used to determine the effect adjustments to system operation have on system performance. (Caccavale, Column 4, lines 24-42, Column 29, lines 6-26).

Regarding Claim 7, most of the limitations have been met in the rejection of Claim 5. See details for Claim 5 rejection. Caccavale discloses the claimed aspect of the distance between consecutive metric points indicates the rate of change of system performance over a fixed period of time, wherein the workload changes over time and workload is plotted to create three dimensional representation. (Caccavale, Column 3, lines 50-66).

Regarding Claim 8, most of the limitations have been met in the rejection of Claim 1. See details for Claim 1 rejection. Caccavale discloses the claimed aspect of the target-type management vector display includes a vertical axis and horizontal axis(FIG.12) representing user-defined attributes. (Caccavale, Column 27, lines 56-63).

Regarding Claim 9, most of the limitations have been met in the rejection of Claim 8. See details for Claim 8 rejection. Caccavale discloses the claimed aspect of the user-defined attributes include transactions over time, wherein monitoring the workload and performance characteristics of the server and altering the server parameters accordingly and the effectiveness of a given change in the sever parameters is reflected in the next set of monitored workload and performance values. (Caccavale, Abstract).

Regarding Claim 10, most of the limitations have been met in the rejection of Claim 8. See details for Claim 8 rejection. Caccavale discloses the claimed aspect of industry baseline metrics are used to set the attributes, wherein the internal server performance characteristics may include, for example, a data cache hit ratio of a data cache in the server. The set of server parameters may include, for example, the overall data cache size or the data cache geometry of the server. (Caccavale, Abstract).

Regarding Claim 14, most of the limitations have been met in the rejection of Claim 1. See details for Claim 1 rejection. Applicant should duly note that it would be obvious to one of ordinary skill in the art at the time of the invention to have more than one of the same representation “multiple target-type management vector displays, each display representing system performance for a different set of variables” depending on the programmer’s choice based on the user’s need.

Regarding Claim 44, most of the limitations have been met in the rejection of Claim 1. See details for Claim 1 rejection. Caccavale discloses the claimed aspect of updating the target-type management vector display to include a new metric point identifying an updated status of system performance as a result of the adjustment to the system operation, wherein the tuning system is continuously monitoring workload and performance characteristics of the server and altering the server parameters accordingly, the effectiveness of a given change in the server parameters is reflected in the next set of monitored workload and performance values. (Caccavale, Abstract, FIG.12).

Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caccavale, US 5,819,033, in view of Manghirmalani, US 5,819,028.

Regarding Claims 12-13 most of the limitations have been met in the rejection of Claims 1, 16 and 30. See rejection details for Claims 1, 16 and 30. Caccavale discloses the claimed aspect of the target-type management vector display comprises two regions, wherein a first region indicates satisfactory performance (FIG.12, sphere), a second region indicates unacceptable performance (FIG. 12, when sphere intersects the cube is the unacceptable region).

Caccavale does not specifically teach another region "a third region indicates improvement required performance" and regions are displayed using different colors, however Manghirmalani discloses three different region in FIG. 6, L 606, N 607, H 608. The region 606 is shaded in red. (Manghirmalani, Column 9, lines 38-40). Furthermore in FIG. 12, 1211, 1212, 1213 indicated regions with different colors. (Manghirmalani, Column 12, lines 34-37).

It would be obvious to one of ordinary skill in the art at the time of invention to combine Caccavale's target vector representation with Manghirmalani's different color region concept because this would allow the user to monitor the system more efficiently.

(10) Response to Argument

A. Caccavale does not teach Graphical User Interface

Examiner agrees that Caccavale does not specifically disclose a "graphical user interface", however it would be obvious at the time of the invention to illustrate the three dimensional graph(Caccavale, Column 4, lines 26-29) on a graphical user interface because this would allow the user monitor the network more efficiently. Furthermore, Caccavale discloses polling system data according to the current monitoring configuration; and displaying the polled system data on a graphical representation (Caccavale, Column 3, lines 58-66, FIG.12), wherein the graphical representation

comprises a target-type management vector display including regions representing levels of system performance(Column 29, lines 6-19, FIG.12), more specifically, wherein the sphere in FIG. 12 is one of region of acceptable performance, while the region external to the cube represents a region of unacceptable performance, and a metric point within the display identifying the current status of system performance at a particular point in time(Caccavale, Column 27, lines 57-63). Applicant should duly note that to obtain three dimensional graphing(Caccavale, Column 3, 42-45), a system resource characteristic (e.g. CPU utilization) is plotted along a second axis for each unique workload value and a server performance metric (e.g. the server's average response time to client requests) is plotted on a third axis for each unique workload value. Thus, the performance and resource utilization of the server, for all possible workload values, is plotted to create a three dimensional representation, or surface topology, of the server is performed typically and commonly to be displayed at some time to a user on a graphical user interface.

B. Caccavale's Graphical representation is not the same as the target-type display

Caccavale's graphical representation in FIG. 12, sphere illustrates a graph with RT.sub.1, RT.sub.2, and RT.sub.3 as the x, y, and z axes, respectively. Each sequential set of 3 response time values creates a triplet as shown in FIG. 13. Each triplet forms a

single point on the graph. The maximum permissible response time forms a cube with the length of the sides being equal to RT.sub.sat, as shown. It has been empirically determined that the set of triplets measured over time will typically be bounded by a sphere of radius r.sub.b. The center of the sphere (which also defines the center of the cube) can be determined, for example, by computing the arithmetic mean of the triplet values calculated over a period of time. The radius, r.sub.b, can then be defined as the distance from the most recent triplet value (or from the average position of a set of recent triplet values) to the center of the sphere. Applicant should duly note that sphere contains the metric point of current server capacity utilization, which is representing an acceptable amount of work being done. (Caccavale, Column 27, lines 5-68, Column 28, lines 30-39).

Furthermore, both a sphere and a cube is the same as target type display because they both give the condition of a network. Caccavale discloses dynamically improving the performance of a server in a network, a tuning system monitors a workload of the server in real time, monitors a set of internal performance characteristics of the server in real time, and monitors a set of adjustable server parameters of the server in real time. (Caccavale, Abstract).

C. Caccavale does not teach adjusting system operation based on the region indicating current status of the system

Caccavale discloses aspect of adjusting system operation based on the region indicating current status of the system, wherein a method and system for dynamically improving the performance of a server in a network, a tuning system monitors a workload of the server in real time, monitors a set of internal performance characteristics of the server in real time, and monitors a set of adjustable server parameters of the server in real time. The workload of the server may include the frequency and type of service requests received by the server from clients in the network. The internal server performance characteristics may include, for example, a data cache hit ratio of a data cache in the server. The set of server parameters may include, for example, the overall data cache size or the data cache geometry of the server. The tuning system periodically alters one or more of the set of adjustable server parameters as a function of the workload and internal performance characteristics of the server. Since the tuning system is continuously monitoring workload and performance characteristics of the server and altering the server parameters accordingly, the effectiveness of a given change in the server parameters is reflected in the next set of monitored workload and performance values. Furthermore, Caccavale provides a computer network and provides a dynamic method of analyzing and improving the performance of the network, it is directed to a system and method for improving the performance level of a network server by dynamically adjusting (i.e. tuning) the

parameters of the server in response to changes in the workload of the server. (Caccavale, Abstract, Column 1, lines 10-17).

D. Appellant argues that Manghirmalani's merely discloses three section; different color region

Caccavale does not specifically teach another region "a third region indicates improvement required performance" and regions are displayed using different colors, however Manghirmalani discloses three different region in FIG. 6, L 606, N 607, H 608. The region 606 is shaded in red. (Manghirmalani, Column 9, lines 38-40). Furthermore in FIG. 12, 1211, 1212, 1213 indicated regions with different colors. (Manghirmalani, Column 12, lines 34-37).

It would be obvious to one of ordinary skill in the art at the time of invention to combine Caccavale's target vector representation with Manghirmalani's different color region concept because this would allow the user to monitor the system more efficiently.

E. Manghirmalani does not indicate "improvement required performance"

Manghirmalani discloses in FIG. 6 there is indication of network being over loaded and error rates which are indication of required correction: the result is that any deviations from normal network behavior can be more quickly identified and corrected. (Manghirmalani, Columns 9, 10).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Ece Hur/

4/13/2009

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